

Setting up the Interactive Educational Process in Higher Education

Olga Nikolaevna Ponomariova^a and Olga Nikolaevna Vasina^b

^a Federal State-Owned Military Education Establishment "Military Academy of Material Support named after army general A.V. Khrulev" (*Branch in Penza*), Penza Artillery

Engineering Institution, RUSSIA,

^b Penza State University, RUSSIA

ABSTRACT

This article aims to discuss the opportunities in the interactive teaching in higher education. The study presents the methodological approach of understanding the notions of "teaching technology" and "interactive teaching methods". The originality of the study consists in the authors' definition of the situation in "the conceptual didactic field" and their proposal of classifying interactive teaching methods. The authors have also explored endless possibilities for setting up the interactive educational process of non-entertaining interactive teaching methods. The issue of implementing interactive teaching methods and techniques in higher education concerns, in the narrow sense, encouraging teachers to perfectly master the specialized terminology and to communicate in the same "teaching" language; and, in the broad sense, the approach to evaluating quality of teaching in a higher education institution, since interactivity is in demand among students, making this institution more competitive in the educational services industry (related to the "word of mouth" phenomenon when modern students' emotions and impressions about an interesting activity are reinforced by professional knowledge which is a must on the job market). The findings obtained provide a conclusive proof that clear and scientifically grounded organization of the educational process in a higher education institution is a prerequisite for the formation of a professionally orientated psychologist as an individual. The contents of the educational process must be interrelated, complementing each other, which will allow for comprehensive and purposeful development of the process.

KEYWORDS

higher education, teaching technology, interactive teaching methods, discussion, task case, case study.

ARTICLE HISTORY

Received 15 May 2016

Revised 20 July 2016

Accepted 19 August 2016

Introduction

Nowadays, higher professional education is actively searching for and trying to implement into the educational process the most effective teaching methods. This situation is determined by the increased demands for high quality education. Let us outline the principal transformations that took place in the

CORRESPONDENCE Olga Nikolaevna Ponomariova ✉ pspu-met@mail.ru

© 2016 The Author(s). Open Access terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>) apply. The license permits unrestricted use, distribution, and reproduction in any medium, on the condition that users give exact credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if they made any changes.



development and upgrading of teaching in higher education in the 21st century (Bespalko, 1989, Bykov, 2000, Verbitsky, 1991, Gushtchin, 2012):

- Developing students' thinking and reflexive skills;
- Creating conditions for collaboration through implementation of appropriate teaching methods and techniques, effective communication; developing teamwork skills; interdisciplinary and meta-subject immersion in the studied topic;
- Teaching technological skills to all the participants of the educational process; digital tools;
- Setting clear goals for evaluating learning outcomes; corresponding tasks; self- and peer assessment; timely feedback;
- Reality-based problem-solving skills development; cross-disciplinary approach; contextualization;
- Learning process includes collaborative and cross-disciplinary approaches;
- Developing total control of information, tools, technologies, etc.

Academic staff is responsible for implementing all of the above-mentioned tendencies. The following factors that emerged in Russian higher education in the last twenty years are worth mentioning:

- 1) Aging of teaching staff and comparatively low percent of "young" staffing, especially in higher education institutions, located far from Moscow and Saint-Petersburg.
- 2) Decrease in quality of teacher training (increased number of class hours, rush towards grants, lack of time to get familiar with teacher training materials, etc.)
- 3) A low degree of professional teacher training of the new generation of engineering, economics, law, health sciences teachers, among others.

Whereas the first characteristic is not yet alarming, young teachers' superficial knowledge of the basics of education science and psychology does not allow them to feel comfortable as mentors to their students. In addition, the notion of "teaching technology" replaces, for a number of teachers, the vocabulary of the learning process. In many higher education institutions in Russia, the solution to this issue is to involve teaching staff in methodological and academic work: methodological and methodical seminars, rewards for publications and presentations on their teaching experiences during various competitions and contests, for instance, "The Best Lecturer", "The Best Supervisor", etc. As a rule, this kind of competitions includes theoretical and practical contests. Issues, related to terminology, are usually part of theoretical assignments at this kind of competitions. Let us now present some results based on our experiences.

Methodology

Education sciences is the field that is constantly developing, new terms are appearing, the content of the already existing notions is being redefined and/or

corrected (Mukhina, 2013, Barantchuk, 2015, Bespalko, 1989, Klarin, 1989, Faktorovitch, 2008, Ponomariova, 2015, etc.). This is why it is important that teaching staff masters this knowledge and that colleagues, when carrying out professional activities, communicate with each other, using the same “teaching” language. It often occurs that one and the same notion is given different definitions. In particular, this observation may also be attributed to the didactic terms “teaching technologies” and “interactive learning methods”. Let us define these terms accurately.

The notion of “teaching technology” is based on the word “technology”. Our familiarity with publications in scientific and technical, psychological, teaching and socio-economical fields allows us to conclude that modern understanding of the notion of “technology” has been significantly broadened and now refers to:

- the totality of operational procedures;
- various activities, defined by the specific tool set;
- the informational environment, in which these activities are carried out;
- the management system corresponding to the activities of a social and economic nature, etc.

The academic community does not have a unified view about how to evaluate this phenomenon and assess its importance for contemporary education. Relevant issues related to teaching technologies are the following:

- the lack of a unified approach to defining the notion of “teaching technology” along with the absence of a detailed classification of the existing teaching technologies;
- “the critical threshold” in the use of teaching technologies (especially within the context of educational activities);
- the contradiction between the algorithmic and excessively schematic nature of technology and the subjective and creative nature of the teaching process;
- the correlation of the notions, such as “teaching technology”, “study options”, “learning methods”, “learning techniques”, etc.

The following approaches to defining the notion of “teaching technology” are cited in the research literature on psychology and teacher training (Mukhina, 2013, Bespalko, 1989, Bykov, 2000, Gushtchin, 2012, Ilyina, 2014, Sitarov, 2008, Faktorovitch, 2008, Ponomariova, 2015, etc.):

- *scientific interpretation:*

✓ Teaching technology is part of educational activities and teacher training that studies and establishes learning objectives, content and methods;

✓ Teaching technology is the area of academic research that studies the efficiency of training;

- *organizational concept of the teaching technology:*

✓ It is a method of organization and an educational process model that guarantees the achievement of the desired result;

- ✓ It refers to the hands-on teaching methods, means and techniques set up and implemented by the teaching staff;
- ✓ It refers to the process of knowledge, skills and abilities acquisition;
- ✓ It refers to rational concepts of constructing educational systems;
- *the instrumental approach to teaching technology:*
 - ✓ It is a system of instructions and precepts aimed at optimizing the educational process;
 - ✓ It refers to technology-based learning tools;
 - ✓ It creates mental prototypes of reality;
 - ✓ It creates evidence-based methods and techniques that guarantee the achievement of specific didactic objectives.

We share the opinion of A. A. Faktorovitch (2008) that teaching technology is a self-sufficient and valuable academic phenomenon, this is why it is necessary not to replace it with well-known teaching categories, but to consider it in relation to them. The research of the in-depth meaning of the notion of “technology” has not yet been worked out. The specific nature of teaching technology is yet to be revealed in order to justify the implementation of this notion in teacher training studies.

In the 1990s, “interactive” was used, in Russian didactics, as a synonym of “active” (the prefix “inter-” encourages not only “teacher-learner”, but also and more importantly “learner-learner” interpersonal educational communication). In the 21st century, the term “interactive” has acquired, among teachers, the status of a teacher’s professional level (Dolgorukov, 2002, Yevdokimova, 2014, Ivanov, 2014, Ilyina, 2014, Ponomariova, 2016, etc.).

Pedagogical sciences always challenge the teacher to encourage students to take an active part in acquiring knowledge and theoretical and practical experience. Fifty years ago, having set this goal, Russian educators adopted the term “active teaching forms and methods”. The term “active” was intended to orient teachers towards constructing the educational process on the basis of learning tasks stimulating interest among students (to make every lesson interesting and motivating requires natural ability which cannot be demonstrated by every teacher). However, the sceptics, at once, answered to the introduction of the term “active” by declaring that, following the same reasoning, all other teaching forms and methods ought to be called “passive”. Currently, several organizational models of the educational process coexist in teaching practice (Ponomaryova et al., 2015, Ponomariova et al., 2016):

1. The “passive” learning model refers to the teacher-learner interaction, in which the teacher is the main participant in full control of the learning process, and the learners have a role of rather “passive” listeners who follow their teacher’s instructions. The teacher-learner relationship is conducted through surveys, independent work, exams, tests, etc.
2. The active learning model refers to the teacher-learner interaction, in which learners/students are no longer passive listeners, but active participants.

If passive methods, as a rule, imply an authoritarian teaching style, active methods imply a democratic one.

3. The interactive learning model is based on the teacher-learner and learner-learner paradigms that replicate real-life situations and include activities, such as learners' interaction with each other, exchange of information, role-playing, joint problem-solving (Zharkevitch, 2014, Konova, Pallak, 2013, Makhotin, 2014). We adhere to the following classification of interactive teaching methods:

- Entertaining methods: role-playing, action games, didactic games, etc.
- Non-entertaining methods: discussions, discussions, various assignments, analysis and problem-solving, including case studies through brainstorming, aquarium, peer feedback, etc. (Ponomariova et al., 2015).

There exists a lot of information about applying entertaining teaching methods. In this article, we focus on some specific non-entertaining interactive learning methods and techniques (Ponomariova et al., 2015).

Discussion is a dialogue/a polylogue or a free exchange of views aimed at elaborating scientific and moral ideas, position clarifications and overcoming misconceptions. It is usually implied that, upon reflecting on an issue, one comes up with the answer to an opponent's opinion, and this is why divergence of opinions makes the discussion possible. However, what really happens is quite the opposite: the discussion generates ideas and activates thinking; when it comes to discussing an issue in the classroom setting, it also ensures learners' conscious subject matter retention. During a lecture, discussion is not possible, in its fullest sense; however, the debatable issue that has led to several different answers from learners, without any of them being recognized as the most appropriate and correct, creates an atmosphere of collective thinking and readiness to listen to the teacher who answers the debatable question.

The learning method, popularly known nowadays as brainstorming, was first used in 1945 in a specific military situation. A few years later, the officer, who had become a teacher, applied this technique for the purposes of military training. Modern pedagogical sciences acknowledged the contribution made by military didactics and adopted it as a general didactic technique that works as follows. Learners are given a specific task. Every participant expresses his opinions and ideas as to how to solve it without any attempts to assess them or to put them in order. The expressed ideas are then written down on a piece of paper. Usually, a group manages to "produce" one or two pages with ideas or commentaries jotted down before the brainstorming process runs low.

A case is considered to be one of the following (Barantchuk, 2015, Dolgorukov, 2002, Makhotin, 2014, Pastoukhova, 2011, Ponomariova et al., 2015, Smirnova, 2016, Ponomariova et al., 2016):

- A task that reproduces a real-life situation. Learners must analyse the situation, think over the essence of the problem, suggest possible solutions to it and choose the best one;
- Information material, describing a specific issue to be solved in a group;

- A specific practical situation that presents an event containing an issue to be solved.

The case study method involves assigning a situational task to a group that then analyses it, identifies the problem and suggests ideas and solutions through discussion with other groups. This method aims at finding solutions to the problem.

Results

Below, we provide some examples of case studies, borrowed from the academic discipline, known as “Conceptions of Modern Natural Sciences” (meta-subject and cross-disciplinary approach).

Case № 1. Instructions. Decide whether the following assumptions are true or false (yes or no). Justify your answer.

Case № 1 a. Bacteria breeding at temperatures above +100°C can live near hot springs on the ocean floor.

Possible answer: yes. Such bacteria are found at great depths below the surface, since water does not boil at these temperatures because of high pressure.

Case № 1 b. In demographic studies (the study of the gender and age of the population in given areas) the birth rate is usually calculated, taking into account the entire population.

Possible answer: no. In demographic studies, the birth rate is usually calculated, taking into account one woman of childbearing age, not the entire population.

Case № 1 c. Predators and parasites are often beneficial to populations.

Possible answer: yes. Competitiveness and predation decrease the growth rate of populations that experience these impacts, but this effect is not necessarily dangerous, if considered in terms of population survival over a long period of time or in evolutionary terms. Negative interactions can speed up natural selection and lead to new adaptations. Predators and parasites can be beneficial to populations that lack self-regulatory mechanisms of preventing overpopulation which could bring about these populations' self-destruction.

Case № 1 d. Although dams constructed on big rivers are praised as a source of many boons (production of electricity, control over floods, water use, fishing, recreational activities), a great number of purposes usually contradict each other.

Possible answer: yes. These purposes contradict each other: if floods are to be kept under control, water will have to be released before the river flood season, but this reduces the power generation and hinders the recreational use of the water reservoir. The system can be used to the maximum for one purpose (or several interrelated purposes), putting aside the other ones, or one can make a decision in favour of multiple purposes, i.e. to compromise.

Case № 1. A granny was giving water to goats. She was carrying water in a galvanized bucket from a well. The granny thought the water was too cold and decided to warm it up. She put the bucket on a gas-stove and, being busy with other things, forgot about the water. When the granny, finally, thought about it, the latter had partially boiled out. Adding some hot water to cold water, she

gave it to the goats. Two weeks later, the granny was surprised to see rust inside the bucket, on the bottom.

How would you explain what happened?

What does a galvanized bucket mean?

Answer: Corrosion (lat. *corrosio* – eroding) is the gradual destruction of metals by chemical or physical and chemical reaction with their environment. Galvanization is 1) the process of applying a protective zinc coating to a metal item to increase the physical and chemical resistance to its surface; 2) the widespread and thrifty way of protecting iron and its alloys from corrosion.

When heated in water, zinc starts to react with water. Anti-corrosion coating is destroyed. Zinc on the bottom of the bucket is considerably heated. After a while, the bottom of the bucket where the zinc coating has been destroyed, iron starts to corrode. This is the reason why rust has appeared on the bottom of the bucket.

It is also necessary to remember that zinc salts, especially sulphates and chlorides, when present in large quantities in the organism for a long time, can cause poisoning because of the high toxic level of Zn^{+2} ions. 1 gram of zinc sulphate is sufficient to cause heavy poisoning. In everyday life, chlorides, sulphates and zinc oxide form when food items are kept in zinc and galvanized dinnerware. Galvanized buckets bear a warning on the label: “Cold water only”.

NB. This case can be used not only in a group discussion, but also for individual work. The accomplishment of such cases are usually evaluated with the figure of one, and their failure, with a zero.

The following situational activities (case studies) can be suggested for analysis:

- Illustration (highlights common factors, mechanisms, consequences);
- Problem (describes a real-life problem situation, a solution to which must be found, or it is necessary to make a conclusion about its absence);
- Assessment (describes a problem situation, the solution to which is already found; the goal is to critically analyze the solution);
- Exercise (use of specialized sources of information, literature, reference books).

A SWOT analysis (strengths, weaknesses, opportunities, and threats) is an additional structured brainstorming technique allowing to analyse any aspect that is pertinent for discussion.

The rules of a SWOT analysis are as follows: divide into three parts a piece of paper (or a board), which is comfortable to work with, and give them titles. The strengths and weaknesses of the solution of an issue are perceived as internal factors and opportunities and threats, as external factors. As soon as these areas have been determined, groups can work according to these results, for instance: “What can we do to minimize the identified threats?”

Discussion and SWOT analysis topics:

- 1) “Is science good or evil?” (philosophy).
- 2) “Is altruism a weakness or strength of mind?” (philosophy, history, pedagogics, psychology).
- 3) “Is there no alternative for nuclear power?” (philosophy, physics, etc.)

Discussion

Our analysis of pedagogical literature on the issue under discussion allows us to conclude that the notion of “teaching technology” is understood as working performance reflecting a high level of culture and efficiency based on:

- the updating of methodology for teaching an academic discipline (learning patterns, methods and techniques);
- “tools” (including learning tools);
- models (teacher’s work experience and personality);
- learning standards (general secondary, higher secondary and postsecondary);
- planning and predicting learning outcomes
- the general knowledge of how the education system develops and functions.

It is worth noting that a broad definition of “teaching technology” can be explained by the desire to use this term instead of the usual and traditional “mode of study” and “teaching method”. It is easier to use the unified term “teaching technology” without going into detail; however, this simplification leads to the loss of the professional slang, known to all teachers, regardless of their specialization.

Interactive learning methods are considered to be part of teaching technologies in secondary and postsecondary professional education.

The above-mentioned interactive non-entertaining learning methods are used to complete tasks related to both the humanities and technology. For example, discussions, cases, brainstorming activities, a SWOT analysis can be integrated into workshops and study groups. At the same time, learners:

- develop their communicative and interactive (transpersonal) skills and abilities that allow them to successfully interact and make collective decisions;
- upgrade their presentation skills;
- acquire professional skills and abilities;
- improve their self-education skills in independent search for information necessary for problem-solving.

The use of activities involving discussions requires teachers to master the heuristic methods of conducting a conversation and to create conditions that stimulate discussion among learners. This is a simple method, yet difficult to implement, since learners are used to listening to the teacher explain new material and require the same from their students. The question and answer technique of teaching interaction rarely leads to a dialogue, whereas the dialogue is one of the oldest teaching techniques used by the greatest teachers of the past, such as Socrates, Plato, Aristotle, Montaigne, Kamensky, Pestalozzi, Ushinsky, Tolstoy, Sukhomlinsky. Virtually any discussion can be completed by such methodological techniques, as brainstorming and the SWOT analysis. The above-mentioned examples of case studies could be presented in discussion form.

The case study method is based on a specific (real-life) example: recognition of a number of events at production site or within an organization; description of a specific professional activity or that of emotional and behavioural interaction aspects among workers, i.e. the real-life workflow is modeled in conformity with the learning content. A step-by-step approach on how to develop a case study is

as follows: if emotions are eliminated, removed from a problem, all that remains is the situation. It is necessary to describe it and find a solution to it.

A case is intended to to acquire knowledge on the disciplines or topics that allow a multiple interpretation. The emphasis is put not on gaining ready information, but on working it out, on collaboration between the learner/student and the teacher. Not only the knowledge, but also the skills required in a professional activity result from adopting this method.

Brainstorming as the interactive learning method generates innovative ideas. This technique is very efficient, since one person's thoughts often stimulate those of another person, and, as a result, ideas emerge one after another. The analysis of the outcomes will be given later.

The advantages of the cases, brainstorming and the SWOT analysis are the following: possibility to set up the learning process in the spirit of inquiry and research; development of effective communication skills in team; synergy (immersion into a situation, knowledge generation, insight, discovery); possibility to create the situation of success, etc.

The disadvantages of the cases, brainstorming and the SWOT analysis are the following: the case developers need to be highly qualified and to completely master the subject and the methodology.

Conclusion

In conclusion, the modern didactics as a teaching science has been considerably enriched by introducing interactivity into the comprehensive educational process. The learning process is focused on the coordinated "teacher-learner" and "learner-learner" interaction. The latter takes place in a climate of mutual support that allows learners not only to acquire new knowledge, but also to develop their cognitive abilities. The domination of an idea or of a participant is completely excluded from the learning process. Instead of being subject to impact, the learner interacts, takes an active part in the learning process and does so at his own individual pace.

In the traditional monitoring of the quality of teaching in high education, the use of interactive teaching methods and techniques in the teachers' work can serve as a reliable indicator of their work proficiency (Bykov, 2000, Ponomariova et al., 2015). However, teaching staff in a higher education institution lacks methodological recommendations on how to use cases, brainstorming activities and the SWOT analysis. We focus our research on elaborating cases, thematic content and the brainstorming and SWOT analysis methodology in order to facilitate the implementation of interactive teaching methods and techniques into the learning process.

The results were received while working on order of the Ministry of Education and Science of the Russian Federation.

References

- Aktivnye i interaktivnye obrazovatelnye tekhnologii i formy provedeniya zanyatiy) v vysshey shkole: uchebnoe posobie [Active and Interactive Learning Technologies in Higher Education: Textbook]. Ed. T. G. Mukhina. Nizhny Novgorod: NNGASU, 2013. – 97 p.
- Baranchuk, N.A. Situatsionnye zadachi kak osnova proektirovaniya tekhnologiy podgotovki ofitserkikh kadrov k resheniyu zadach povsednevnoy deyatelnosti [Situational Tasks as a Basis for Planning Technologies Intended for Preparation of Officers to Solve Real-Life Tasks]. Vestnik Kostromskogo gosudarstvennogo universiteta imeni N. A. Nekrasova. Seriya Gumanitarnye

- nauki: Pedagogika. Psikhologiya. Sotsialnaya rabota. Akmeologia. Yuvenologia. Sotsiokinetika, No. 2, vol. 21, 2015, pp. 118-121.
- Bespalko, V. P. Slagaemye pedagogicheskoy tekhnologii [Components of Teaching Technology]. Bespalko V. P. M.: Pedagogy, 1989. – 182 p.
- Bykov, A. K. Teoriya i praktika razvitiya pedagogicheskogo masterstva prepodavateley vysshey voennoy shkoly [Theory and Practice of Teacher Training in the High Military School]: Diss. Dokt. Ped. Nauk: 13.00.01; - M. 2000. – 520 p.
- Verbitsky, A. A. Aktivnoe obuchenie v vysshey shkole: kontekstnyi podhod [Active Learning in Higher Education: a Context Approach]. M.: Higher School, 1991. – 82 p.
- Gushtchin, Y. V. Interaktivnye metody obucheniya v vysshey shkole [Interactive Learning Methods in Higher Education]. Psychological Journal of International University of Nature, Society and Human "Dubna", 2012, No. 2, pp. 1-18.
- Dolgorukov AM Sase study kak sposob (through strategy) ponimaniya. [Case Study as a Way of Understanding]. A Practical Guide for t'yutora system of open education on osnove distantsionnykh Technology. eds. AM Dolgoruky. M.: Intensivnykh Center Education Technology, 2002, pp. 21-44.
- Yevdokimova, O. V. Pedagogicheskiy monitoring obrazovatel'nogo protsessa v voennykh obrazovatel'nykh uchrezhdeniyakh vysshego professional'nogo obrazovaniya Ministerstva oborony Rossiyskoy Federatsii (Pedagogical Monitoring of the Educational Process in Higher Education Military Institutions of the Ministry of Defence of the Russian Federation. Modern problems of science and education, 2014, No. 6. <http://www.science-education.ru/en/article/view?id=16757>
- Zharkevitch, L. L. Tekhnologii formirovaniya tvorcheskikh i issledovatel'skikh navykov u kursantov voennykh fakultetov vuzov [Technologies of Creative and Research Skills Formation of Military Science Students]. Science - education, manufacturing, economy: materials 12 Int. Scientific and technical conference. vol. 2, Minsk: BNTU, 2014, pp. 437-438. <http://rep.bntu.by/handle/data/12529>
- Ivanov, V. V., Malinetski G. G. Reforma rossiyskogo obrazovaniya – poiski resheniiy [Reforms in the Russian Education and the Search for Solutions]. Obrazovanie v Rossii: federalnyi spravochnik. 2014. Issue. 10. pp. 83-95. http://www.keldysh.ru/departments/dpt_17/2014/Ivanov_Malin.pdf
- Ilyina O. Y. Interaktivnye metodiki "novogo pokoleniya" kak usloviya formirovaniya professional'nykh kompetentsiy bakalavrov [New Generation's Interactive Methods as Terms of Formation of Bachelors' Professional Skills] Vestnik TvGU. Seriya "Pravo", 2014. No.1, pp. 268-274.
- Klarin, M. V. Pedagogicheskaya tekhnologiya [Teaching Technology]. M. V. Klarin. – M. 1989. – 187 p.
- Kononova, E. A., Pollak, G. A. Interaktivnyi metod otsenki znaniy na osnove primeneniya tekhnologii case study [Interactive Method of Knowledge Assessment Based on the Implementation of the Case Study Technique]. Bulletin of the South Ural State University. Series "Education. Educational sciences", Issue 3, vol. 5, 2013, pp. 93-97.
- Makhotin, D. A. Metod analiza konkretnykh situatsiy (cases) kak pedagogicheskaya tekhnologiya [Method of Assessment of Specific Cases as Teaching Technology]. Vestnik RIAT, 2014, Issue. 1. – pp. 94-98.
- Pastukhova, L. A. Nekotorye problemy ekologicheskogo obrazovaniya kursantov v voennom vuze vozmozhnye puti ikh resheniya [Some Problems of Environmental Education of Military Students and Possible Solutions]. Vestnik Baltiyskogo federal'nogo universiteta im. I. Kanta. 2011. Issue 11. Pp. 86-91.
- Ponomariova, O. N., Yevdokimova, O. V., Tsaplyuk, A. I. Sovershenstvovanie podgotovki voennykh spetsialistov: metod "case study" v prepodavanii gumanitarnykh distsiplin [Updating of Vocational Training of Military Experts: Case Study Method in Teaching Human Sciences]. Modern problems of science and education. 2016. No. 3; <http://www.science-education.ru/ru/article/view?id=24521> (accessed 16.05.2016).
- Sitarov, V. A. Didaktika: posobie dlya prakticheskikh zanyatiy: uchebnoe posobie dlya studentov vysshikh uchebnykh zavedeniy [Didactics Workbook: Study Guide for University Students]. M.: Akademy, 2008. – 352 p.
- Smirnova, M. S. Case tekhnologii v obrazovatel'nom protsesse: ot shkoly do magistratury Case Technologies in the Learning Process: From High School to Graduate School]. Interactive science, 2016, Issue. No. 2. <http://cyberleninka.ru/article/n/keys-tehnologii-v-obrazovatel'nom-protsesse-ot-shkoly-do-magistratury>
- Faktorovitch, A. A. Sushtchnost' pedagogicheskoy tekhnologii [Essence of the Teaching Training Technology]. Pedagogy, 2008, No. 2, pp. 19-27.
- Formirovanie obshtchekulturnykh kompetentsiy v voennykh obrazovatel'nykh organizatsiyakh vysshego obrazovaniya Ministerstva oborony Rossiyskoy Federatsii: monografiya [Formation of General cultural competence in military educational institutions of higher education of the



Ministry of defence of the Russian Federation: monograph. / Under the General editorship of O. Ponomariova. – Penza: PSU Publishing, 2015. – 320 p.